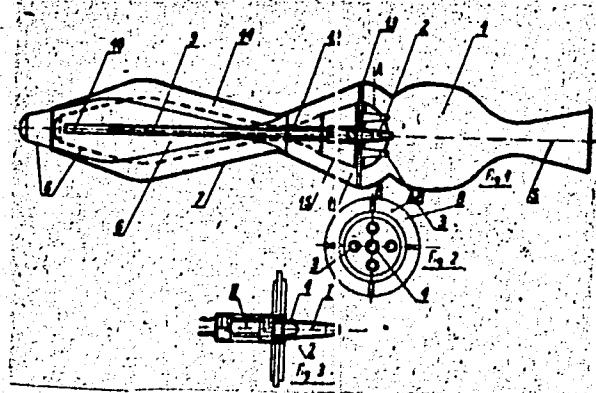


A combined rocket-ram ...

32036
P/008/62/000/001/003/005
D269/D303



Figs. 1 - 3

Card 3/3

X

WAWRZYNIAK, E.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Pharmaceuticals, Cosmetics, and
Perfumes

(2)
A polarimetric method for the control of activity in the production of vitamin D₂. J. Tulecki and E. Wawrzyniak, *Farm. Polska* 9, 104-9 (1953).—Vitamin D₂ was produced by means of ultraviolet irradiation of ergosterol. The most effective solvent for this purpose was found to be benzene-EOH (2:1). Irradiation was done in a H₂O-cooled quartz tube in an atm. of N₂ (free of O₂). The liquid was stirred by means of convection currents. At regular intervals samples were removed and analyzed polarimetrically (Jobin-Vyon polarimeter) (in an atm. of CO₂ free of O₂) and gravimetrically. Within 210 min. 2% ergosterol was left in a test while optical rotation dropped from -3.00 to -0.30. 15 references.

L. J. Piotrowski

R H
9-30-74

WAWRZYNIAK, Edward

WAWRZYNIAK, Edward, dr

Progress in the field of chemical analysis. Farm. polska 10
no.6:149-153 June 54.

1. Adjunkt Zakladu Technologii Chemicznej Srodow Leczniczych
Akademii Medycznej w Gdansku.
(CHEMISTRY,
chem. analysis, progr.)

WAWRZYNIAK, E., Dr

Progress in the field of chemical analysis. Farm. polska 10 no.7:
173-178; concl. July 54.

1. Adiunkt Zakladu Technologii Chemicznej Srodow Leczniczych
Akademii Medycznej w Gdansku.
(CHEMICAL ANALYSIS,
progr.)

WAWRZYNIAK, EDWARD

Reel ✓ Determination of the
photochemical reaction of
Wawrzyniak, *Acta Polon. Pharm.*, 13, 137-8 (1958).
Ergosterol in a H_2O soln. emulsified with sodium oleate
or pepsin underwent a photochem. reaction to give the usual
products observed by the use of solns. in Et_2O , C_6H_6 , or alc.
P. Dreyfuss

WAWRZYNIAK, Edward

SURNAME (in caps); Given Names

Country: Poland

Academic Degrees: Dr Pharm

Affiliation: [Institution not given], Stare Pole, Malbork district

Source: Warsaw, Farmacja Polska, Vol XVII, No 15-16, 25 Aug 61,
pp 322-323

Data: "On the Greater Participation of Pharmacists in
Medical Analysis."

WAWRZYNIAK, Edward, dr. farm., (Stare Pole, Pow. Malbork).

On the proper position of pharmacy in the community.
Farmacja Pol 16 no.17:359-360. S '61.

WAWRZYNIAK, Edward, dr farm. (Star Pole, pow. Malbork)

An appeal issued at the right time. Farmacja Pol 19 no.7:131-132
10 Ap '63.

WAWRZYNIAK, Edward, dr farm. (Stare Pole, pow. Malbork)

Comment on the way to be taken for the control of tuberculosis. Farmacja
Pol 19 no.7:132 Ap '63.

POLAND

WAWRZYNIAK, Edward, Dr. pharm., Chair of Toxicological and Legal Chemistry (Katedra Chemii Toksykologicznej i Sadowej), Medical Academy (Akademia Medyczna) in Gdansk (Director: Prof. Dr. Stanislaw BYCZKOWSKI)

"New Color Reactions for Ergosterol Photoisomers."

Warsaw, Farmacja Polska, Vol 19, No 8, 25 Apr 63, pp 153-154.

Abstract: The author describes two modifications (I and II) of color reaction methods for vitamin D₂, which can be used to determine calciferol in the pure form or in a mixture with other photoisomers, as well as a new reagent (III) for selective color testing for ergosterol. All have the advantage of being able to be used on a microanalytical basis by the drop method. Adaptation for quantitative analysis to be published separately. There are ten (10) references, five (5) each for German and Western sources.

1/1

WAWRZYNIAK, Edward, dr farm (Stare Pole, pow. Malbork)

Rural toxicology and pharmacists. Farmacja Pol 20 no.1/2:
50-54 25 Ja⁶64.

NERLO, Henryk; CIOLEK, Barbara; OGOREK, Halina; WAWRZYNIAK, Edward

Physico-chemical prescription discrepancies of some sulfonamides.
Pol. tyg. lek. 19 no.28:1085-1088 13 - 20 Jl'64

1. Z Katedry i Zakladu Farmacji Stosowanej Akademii Medycznej
w Lublinie; kierownik: prof. dr. farm. Henryk Nerlo.

WAWRZYNIAK, Edward, dr farm.

New colored reactions on photoisomers of ergosterol. Farmacja
Pol 19 no.8:153-154 25 Ap '63.

1. Katedra Chemii Toksykologicznej i Sadowej, Akademia
Medyczna, Gdańsk. Kierownik Katedry: prof. dr Stanisław
Byczkowski.

WAWRZYNIK, JERZY

Continuous extraction in production of
vanilla liquor. Zygmunt Klin and Henryk
Pracejus, Lub. Badaczech Plaszczyzny, 10
(1956), No. 1: 87-100 (1956). — Vanilla wa
s extracted from an org. solvent by passing it stepwise
through a column battery filled with NaHSO₄ col.
practically completely bound when 60-70%
was used. K was calc'd. to be 0.86×10^3
resin, resulted in a greater yield by minim
this phase of the process. A pilot-plant extr
optimum operating conditions are described.

vanilla from
Wawrzynik,
Jerzy J. Szwed
continuously
through a 3-
Vanilla was
less bisulfate.
Continuous
ing losses in
ctor unit and
A. S. S.

HENRYK WAWRZYNIAK

POLAND / Chemical Technology, Chemical Products and Their Application. Part 4 - Cellulose and Its Derivatives, Paper.

H-32

Abs Jour : Ref. Zhur. Khimiya, No 4, 1958, 13217.

Author : Henryk Wawrzyniak.

Inst : Not given

Title : Separation of Lignin in Process of Vanillin Production of Waste Lye.

Orig Pub : Przegl. papiern., 1957, 13, No 8, 249 - 251.

Abstract : Experiments of separating lignin from acid solutions by centrifuging were carried out in the process of vanillin manufacturing under factory conditions with positive results. The phenomenon of vanillin chemosorption by lignin is recorded.

Card 1/1

POLAND / Chemical Technology. Chemical Products and H-33
Their Applications. Cellulose and its Derivatives. Paper.

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 10410.

Author : Wawrzyniak, H.

Inst : Not given.

Title : Lignin Separation in Vanillin Production from
Waste Alkalies.

Orig Pub: Przegl. papiern., 1957, 13, No 9, 231-236.

Abstract: A method for the technological process of separating lignin is given. The neutralization is conducted at 70-80° for 15-30 minutes at pH 4.0. Instead of the H₂SO₃ ordinarily used, H₂SO₄ is suggested. The vanillin losses in the hot method of isolating lignin are compensated by the ex-

Card 1/2

POLAND / Chemical Technology. Chemical Products and H-33
Their Applications. Cellulose and its De-
rivatives.

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 10410.

Abstract: traction of vanillin from the filtrate. The ad-
vantages of this method are: the possibility of
widening the power capacity of the plant, intro-
duction of a continuous extraction process, im-
provement of sanitary and general labor conditions.
The method is given. For previous report see Ref
Zhur Khim, 1958, 13217. -- Ye. Gurvich.

Card 2/2

242

Wawrzyniak, I. ; Tomassi, W.

An attempt to characterize the surfaces of various carbon preparations by the
potentiometric determination of the adsorption isotherm of hydrogen chloride.
p. 157.

PRZEMYSŁ CHEMICZNY. (Ministerstwo Przemysłu Chemicznego i Stowarzyszenie Naukowo-
Techniczne Inżynierów i Techników Przemysłu Chemicznego) Warszawa, Poland.
Vo. 37, no. 3, Mar. 1958.

Monthly list of East European Accessions (EEAI) LC, Vol. 9, No. 2, Feb. 1969.

Uncl.

WAWRZYNIAK, IRENA.

Determination of the specific surface of various activated carbons by potentiometric determination of the adsorption isotherm of hydrogen chloride. Witold Tomasz and Irena Wawrzyniak (Politech., Warsaw). *Przemysl Chemiczny*, 37, 167-9 (1988) (English summary); cf. preceding abstr.
OR
//
The total and external surface of 5 different activated-C samples were measured (trade names: CS, CF, Cl, CH, and CN). The potentiometric isotherms of HCl adsorption on these samples were detd. by the method of powder electrode. There is a relation between the size and the characteristics of the surface. The previous equation $P = aG$ holds true; P = potential of the powder electrode, G = surface concn. of HCl and a and b are consts. A relation was found between $(ab)^{-1}$ and the capillarity of the C and also between a^b and the external surface of C. R. J. H.

Distr: 4E43

Country	:	Poland	B-13
Category	:	Surface Phenomena. Adsorption. Chromatography. Ion Exchange.	
Abs. Jour.	:	Ref Zhur - Khimiya, No 6, 1959	18698
Author	:	Tomassi, W.; <u>Wawrzyniak, I.</u>	
Institut.	:		
Title	:	An Attempt to Determine Surface Characteristics of Different Charcoal Preparations by Potentio- metric Determination of HCl Adsorption Isotherm.	
Orig. Pub.	:	Przem. chem., 1959, 37, No 3, 157-159	

Abstract : The method of powder electrodes (PE) was used to determine isotherms of adsorption (A) of HCl at five different specimens of activated and unactivated charcoal (C) including also carbon electrodes for spectral analysis. The potential of PE depends on amount of adsorbed substance. This correlation is expressed by equation $V = aG^b$, where V is potential of PE, G-- surface concentration of HCl, a and b are constants. Total surface ($S_{(tot)}$) of C under study was determined by BET method, and their external surface ($S_{(ext)}$) -- by the method described by Kamack (RZhKhim, 1956, 62025). A correlation was found between $(ab)^{-1}$ and the ratio

Card: 1/2

B-21

Country	:	Poland	B-13
Category	:	Surface Phenomena. Adsorption, Chromatography. Ion Exchange.	
Abs. Jour.	:	Ref Zhur-Khimiya, No 6, 1959	18698

Author :
Institut. :
Title :

Orig Pub. :

Abstract : $S_{(tot)}/S_{(ext)}$, which characterizes the "capillarity" of C, and also between a^b and $S_{(ext)}$. On the basis of an interpretation, proposed by the authors, of processes occurring in PE comprising C having an adsorption layer (AL), the authors designate $(ab)^{-1}$ as index of stability of A, and consider a^b a yardstick of potentiometric effect induced by the presence of adsorption layer and depending primarily on desorption rate. This effect increases with increase of $S_{(ext)}$. The possibility is pointed out of an approximate evaluation of specific surface of C powders solely on the basis of potentiometric determinations.-- Ya.Satunovskiy.

Card: 2/2

WAWRZYNIAK, J.

Photostimulated emission of exoelectrons from the surface layer of amphoteric metals reacting with concentrated NaOH or KOH. J. Wawrzyniak and B. Sujak (Univ. Wrocław, Poland). *Nature* 186, 467 (1960). Investigations have shown that amphoteric metals, such as Al, Zn, and Sn, as well as brass and some soldering alloys contg. Sn, give relatively strong emission of exoelectrons when irradiated with visible light, after the freshly abraded surface is sprayed with concd. NaOH or KOH. Al produces this effect even when not abraded. The intensity of the emission decreases with the thickness of the NaOH or KOH layer. The effect was not due to the exothermic character of the reactions, because no emission was observed from abraded specimens treated with concd. HCl. Mg, which is a strong emitter of exoelectrons under visible light, shows a decrease in emission intensity when sprayed with concd. NaOH or KOH.

Harry E. Patter

5

25144
P/045/61/020/005/007/008
B:33/B212

243500

AUTHORS: Sujak, B. and Wawrzyniak, J.

TITLE: Photo-stimulated emission of exo-electrons from the surface layer of amphoteric metals reacting with sodium hydroxide or potassium hydroxide

PERIODICAL: Acta Physica Polonica, v. 20, nos 5-6, 1961, 463-469

TEXT: The present paper deals with the emission of exo-electrons accompanying chemical reactions occurring between processed surfaces of amphoteric metals and concentrated NaOH or KOH solutions if the reacting surface is illuminated with white light. The authors' discovery has been published in "Nature". The reader is referred to the detailed review of the problem published recently by Roikh, I. I. and Yarpoverytsky, L. Y. (Uspekhi Khimii, 2, 168 (1959)). The measuring device consisted of a point counter (1.4 cm diameter) closed with a metal grid. The light source consisted of a 6v/50 w tungsten bulb with glass condenser and interference filters. Newly abraded surfaces of Al, Zn, Sn, Pb, commercial Cd, brass, and soldering alloys (the last three because of their Sn content) showed a great increase

Card 1/5

25114
Photo-stimulated emission of ...

P/045/61/020/005/007/008
B133/B212

of photo-stimulated exo-electron emission when spraying the surface with a thin layer of NaOH or KOH. When the illumination was stopped, the effect vanished in spite of the chemical reaction. Mg, Cu, Fe, and a number of other metals failed to exhibit this effect. As shown in Fig. 2, large differences were obtained in measurements of specimens made of the same metal, which Mader and Sujak attribute to the difficulty of mechanical surface processing (see references to English-language publications). Strongly oxidized surfaces did in no case show the effect described. By applying an electric field between specimen and counter, the particles emitted from the specimens were shown to be negatively charged. According to Hrbek and Vlasakova, the counter does not record the photoelectrons emitted but the oxygen ions produced by their capture (Hrbek, M. S. and Vlasakova, L., Czech. J. Phys., 7, 626 (1957)). The metals investigated were found to present the following sequence of decreasing intensity of emission: Al, Sn, Zn, Pb. The maximum intensity was reached most rapidly by Al, followed by Sn, Zn, and Pb. The values around the mean values varied by some tens of seconds. The shift of the long-wave limit for the photoeffect described can be seen from Fig. 3. Metals with smaller chemical affinity in general require light quanta of higher energy to produce exo-electron emission.

Card 2/5

25144
P/045/61/020/005/007/008
B133/B212

Photo-stimulated emission of ...

The authors think that an effect of this kind could also be obtained for Sb by using light of shorter wavelengths. A more detailed investigation is proceeding. There are 3 figures and 11 references: 4 Soviet-bloc and 7 non-Soviet-bloc. The three most important references to English-language publications read as follows: Mader, J. and Sujak, B., Acta phys. Polonica 19, 179, (1960); Sujak, B., Brit. J. appl. Phys., 10, 102, (1959b); Wawrzyniak, J. and Sujak, B., Nature, 186, 467 (1960).

ASSOCIATION: Institute of Physics, Polish Academy of Sciences, Wrocław,
Chair of Experimental Physics of the University, Wrocław

SUBMITTED: December 7, 1960

Card 3/5

WAWRZYNIAK

Determination of colloids in sugar juices and their removal by means of aluminum salts. Z. Czerwinski and K. Wawrzyniak. *Gaz. Cukrownicza* 55, 167-68 (1953); *Sugar Ind. Abstr.* 16, 20 (1954).—The colloid contents of beet diffusion juice and various other sugar-factory liquors were determined by the method of Hargyly and Hidasi, *C.A.* 49, 0302e and were found to be inversely proportional to the purity of the juice. Lab. expts. on juice purification with Na alum or NH₄ alum are described, in which the degree of purification has been followed by analyses of the colloid contents by the Dumanski gravimetric method, and also by nephelometric measurements. The tests were made by adding 0.1 ml. of a 5% alum soln. to 50 ml. of diffusion juice at 85° at pH 5.3, though colloid removal after alum treatment and subsequent defecation yielded larger crystals than those obtained from factory juice. K. L. C.

WAWRYNIAK, M

POL.

Dytochemical investigations on ascorbic acid in adrenals of domestic fowls. M. Wawryniak. Ann. Univ. Mariae Curie-Sklodowska, 1952, 7,

ascorbic acid content of the adrenals increases with the maturation of the bird. The cells of the cortex react strongly to ascorbic acid. In the chicken adrenal, ascorbic acid is connected in the cell with the chondriome. Administering vitamin C induces an increased growth rate of the fraction of the adrenals.

E. M. RATTENDAY

WAWRZYNIAK, Marek

POL.

Cytochemical investigations on vitamin C in the adrenals of the domestic fowl. Marek Wawrzyniak (Univ. Mariae Curie-Skłodowska Lublin), "Acta Physiol. Polon." 1952, Sect. B, Vol. 10, p. 207 (1952) (English summary); cf. C.A. 47, 8160. Vitamin C content in the adrenals of the domestic fowl increases with maturation of the bird. Intramuscular administration of vitamin C increases its content in adrenals. An intensive reaction to vitamin C was observed in the cells of the renal fascia and in chromophilic cells situated nearest the vessels. The marginal cells of the renal fascia showed a similar reaction. It is presumed that in chicken adrenals vitamin C is connected in the cell with the Golgi apparatus and the chondriome, but can also appear independently. Administration of vitamin C induces faster growth of both adrenals. Alina S. Luszczak.

WAWRYNIK, M.

POL.

Cytologic tests of the determination of spermatogenesis in vitamin C in the *Uva*. *M. Czaja-Skłodowska*, *Acta Urol. Pol.* 1953, 3, 163-180.

Dependence of the process
nesting cock. *M. Wawryniak*,
1953, 8, 163-180. The
vitamin C injection depends on
the age of the cock, the quantity and
the mode of injection. It accelerates spermatogenesis if given at a time when
the process has already commenced
for the native (green leg) cockerel that is at eight weeks.

WAWRZYNIAK, Marek, doc. dr

Morphologic basis of protein synthesis. Folia morphol 22 no.1:
91-103 '63.

1. Kierownik Zakladu Histologii i Embryologii, Wydzial Weterynaryjny,
Wyższa Szkoła Rolnicza, Lublin.

*

MOROZOWSKA, Wiktoria, dr inz.; WAWRZYNIAK, Maria, inz.

Characteristics of industrial dusts and their utilization.
Gosp paliw 11 no.11:Supplement: Biul inst techn ciepl 11
no.11:437-439 N '63.

LASZKIEWICZ, Miron, mgr inż.; WARZYNIAK, Maria, inż.; WITOS, Wincenty, mgr inż.

New dedusting installations for steam boilers. Gosp. paliw 13
no.4:138-140 Ap '65.

1. Department of Heating and Air Conditioning of the Institute
of Heat Engineering, Łódź.

WAWRZYNIAK, Marek

Cytochemical studies on the behavior of nucleic acids in the epithelium of the graft in laminal intracorneal keratoplasty.
Klin. oczna 34 no.1:9-17 '64

1. Z Kliniki Okulistycznej AM w Lublinie; kierownik: prof.
dr.med. T.Krwawicz.

*

WAWRZYNIAK, Marek

Histochemical studies on the cholinergic and adrenergic innervation of the cornea in a rabbit. Folia morph. (Warsz.) 24 no.2: 179-186 '65.

1. Z Kliniki Okulistycznej AM w Lublinie (Kierownik: prof. dr. T. Krwawicz).

WAŁRZYNIAK, Stanisław

Total arrest of regeneration of erythrocytes (erythroblastophthisis)
Polski tygod. lek. 10 nc.4:106-109 24 Jan 55.

1. z III Kliniki Chorob Wewnętrznych A.M. w Poznaniu; kierownik:
prof. dr F.Labendzinski.

(ANEMIA, APLASTIC,

total arrest of regen. of erythrocytes possibly secondary
to mushroom poi.)

(MUSHROOMS, poisoning,

as possible cause of aplastic anemia with total arrest of
regen. of erythrocytes)

(POISONING,

mushrooms, as possible cause of aplastic anemia with total
arrest of regen. of erythrocytes)

EXCERPTA MEDICA Sec. 6 Vol. 11/4 Apr. 57
WAWRZYNIAK S.

2627. WAWRZYNIAK S. III Klin. Chor. Wewnętrz. A.M. Poznań. *Odczyn mielo-blastyczny czy białaczka. Leukaemoid reaction or leukaemia

POL. TYG. LEK. 1955, 10/45 (1474-1476) Tables 2 (November)

With regard to a case of gastric cancer with metastases, with the clinical picture of leukaemia with marked leucocytosis (290,000 per cu. mm.), the differentiation between leukaemia and leukaemoid reaction, and the occurrence of leukaemoid and erythroleukaemoid reactions in cancer patients are discussed.

Fromowicz - Cracow (VI, 16)

LABENDZINSKA, Hanna; LUKASZEWSKI, Bogdan; WAWRZYNIAK, Stanislaw

Research on osseous lesions in pernicious anemia. Polskie arch. med. wewn. 28 no. 7:995-997 1958.

1. Z III Kliniki Chorob Wewnętrznych A. M. w Poznaniu Kierownik: prof. dr med. F. Labendzinski z Zakładu Radiologii A. M. w Poznaniu Kierownik: doc. dr med. B. Gladysz i z Zakładu Anatomii Patologicznej A. M. w Poznaniu Kierownik: prof. dr med. J. Groniowski. Adres autora: Warszawa, I Klinika Chorob Wewnętrznych, ul. Nowogrodzka 59.

(ANEMIA, PERNICIOUS, pathol.)

bone lesions (Pol)

(BONE AND BONES, pathol.)

bone lesions in pernicious anemia (Pol)

WAWRZYNIAK, Stanislaw

Studies on the intrinsic factor of the gastric juice during the
treatment of Addison-Biermer disease. Poznan.tow.przyjaciol nauk,
wydz.lek. 18 no.1:1-30 '60.
(GASTRIC JUICE)
(ANEMIA PERNICIOS ther.)

WAWRZYNIAK, Stanislaw; ZIMMERMANN-GORSKA, Irena; OLEJNICZAK, Pawel.

Chloroma with parapromyelocytic proliferation. Pol. arch. med. wewnet. 34 no.12:1701-1706 '64.

1. Z III Kliniki Chorob Wewnetrznych Akademii Medycznej w Poznaniu (Kierownik: prof. dr. med. K. Wysocki).

NOWICKI, Jozef; WAWRZYNIAK, Zdzislaw (Warszawa)

New hydrophobic insulation material. Przegl budowl i bud mieszk 35
no.9:489-491 '63.

KOWALSKI, Mieczyslaw; WAWRZYNIUK, Jozef

Surgical treatment of habitual dislocations of the patella.
Chir. narzad. ruchu ortop. Pol. 29 no.2:197-203 '64.

1. Z Oddzialu Ortopedyczno-Urazowego Miejskiego Szpitala Nr 8
w Warszawie (Ordynator: prof. dr. Z. Ambros).

WAWRZYNIEWICZ		S.
3305 Wawrzyniewicz S. The Influence of Ground Conditions on Building Costs and the Efficacy of Basic Communal Investments. "Wpływ warunków terenowych na koszty budowy i efekty podstawowych urządzeń komunalnych". Młasto, No. 9, 1954, pp. 7-9. The quantity, quality and economic realization of such communal investments as water mains, canalization, melioration, street surfacing and public transportation, depend on the character of land to be built-over and the character of the construction itself. The cost of providing service installations is about 20 per cent of the total cost of building a town. The principal natural conditions, which have a direct influence on the realization of plans, include: 1) geological and geotechnical conditions; 2) land relief; 3) hydrological and hydrogeological conditions. Any decisions taken regarding the special construction plan must be based on an exact knowledge of the geotechnical conditions of the land, and the distribution of land for building purposes should be explained in detail.	352 : 338.04 : 057.47	

LASKOWSKA, Danuta; WIERZBICKA, Irena; WAWRZYNKIEWICZ, Tadeusz

Status of epilepticus during acute isoniazid poisoning; 3 case reports.
Neur. &c. polska 8 no.1:41-56 Jan-Feb '58.

1. Z Oddzialu neurologicznego Państwowego Szpitala dla Nerwowo i Psychicznie Chorych Kochanówka w Łodzi. Ordynator: dr med. L. Prusak. Dyrektor: dr med. M. Marzynski. Adres: Łódź 19, ul. Aleksandrowska 159. (EPILEPSY, etiol & pathogen.

isoniazid, attempted suicides, causing status epilepticus,
case reports (Pol))

(ISONIAZID, poison
causing status epilepticus in attempted suicides,
case reports (Pol))

(SUICIDE,
attempted by isoniazid causing status epilepticus,
case reports (Pol))

WAWRZYNOWICZ, S.

Present achievements and prospects of development of communal water supplies.

p.353.

GOSPODARKA WODNA (Naczelnna Organizacja Techniczna) Warszawa

Vol. 15, no. 9, Sept. 1955

So. East European Accessions List Vol. 5, No. 9 September 1956

WAKSMUNDZKI, Andrzej; WAWRZYNOWICZ, Teresa; WOLSKI, Tadeusz

Studies on the chromatographic separation of the intermediate
and final products of 6-mercaptopurine synthesis. Acta pol.
pharm. 20 no.3:259-264 '63.

1. Z Katedry Chemii Nieorganicznej Wydziału Farmaceutycznego
Akademii Medycznej w Lublinie Kierownik: prof. dr A. Waksundzki.
(MERCAPTOPURINE) (CHROMATOGRAPHY)

WAWRZYNsKA, J.

Salicyl is harmless to the heart; rheumatism is a foe of children", p. 13,
(ZDROWIE, Vol. 5, No. 7, 1953, Warszawa, Poland)

SO: Monthly List of European Accessions, L.C., Vol. 3, No. 4, April, 1954

BOCIAN, Jérzy; PRAZANOWSKI, Miroslaw; WAWRZYNSKA, Jadwiga; STASIK, Miroslaw

A case of discastlosis with symptoms of Addison-Biermer's anemia
in lambliasis. Wiad. parazytol. 7 no.3:579-585 '61.
(LAMBLIASIS diag) (ANEMIA PERNICIOUS diag)

WAWRZYNsKA, M. ABCAROWICZ, A.; STACHOWSKA, Z.; ZASUN, H.

Salmonella and Shigella bacteria in etiology of infantile diarrhea.
Pediat.polska 30 no.3:251-253 Mr '55.

1. Z Wojewodzkiej Stacji Sanitarno-Epidemiologicznej w Bydgoszczy
Dyrektor: dr med. M. Barciszewski; Bydgoszcz, Woj. Stacja, San.
Epid.

(SALMONELLA INFECTIONS, in infant and child
diarrhea

(SHIGELLA, infections
diarrhea in inf.)

(DIARRHEA, bacteriology

Salmonella & Schigella bact. in etiol. in inf.)

L 31845-66 T JK

ACC NR: AP6021322	(A)	SOURCE CODE: P0/0061/65/019/003/0309/0313
AUTHOR: Jeljaszowica, J.; Hawiger, J.; Czacka, J.; Cyrankiewicz-Siennicka, M.; Gorska, A.; Guliniski, J.; Hebenstreit, C.; Klimek, H.; Klapowska, K.; Krolik, J.; Lenartowicz, C.; Luft, A.; Monkwa, L.; Nocon, L.; Pawlowska, L.; Padryca, W.; Pernal, C.; Pogorzelska, A.; Rodzinski, L.; Siennicki, W.; Sikora, G.; Szymanski, J.; Teresh, I.; Wawrzynska, M.; Wenczel, Z.; Znicz, A.		
O&G: Institute of Bacteriology, PW, Warsaw (Zaklad Bakteriologii); Regional and City Sanitary Epidemiological Centres, Bydgoszcz, Katowice, Kielce, Krakow, Lodz, Opole, Rzeszow, Warsaw, Wroclaw (Wojewodzka i Miejska Stacj Sanitarno-Epidemiologiczna); Bacteriologic Laboratory, No. 3, PSK, Wroclaw (Laboratorium Bakteriologiczny)		
TITLE: Antibiotic-resistant strains of <u>Streptococcus viridans</u> , <u>Streptococcus faecalis</u> , <u>Escherichia coli</u> , <u>Pseudomonas aeruginosa</u> , <u>Proteus species</u> and <u>Klebsiella species</u> ,		
Isolated in Poland in 1960-1963		
SOURCE: Przeglad epidemiologiczny, v. 19, no. 3, 1965, 309-313		
TOPIC TAGS: bacteriology, penicillin, streptomycin, tetracycline, erythromycin, neomycin		
ABSTRACT: Sensitivity tests of the above strains were carried out in respect to peni- cillin, <u>streptomycin</u> , <u>tetracycline</u> , chloramphenicol, erythromycin and neomycin. It was found that resistance to antibiotics in <u>Streptococci</u> differed from that in Gram- negative bacilli. <u>Streptococcus faecalis</u> was found highly resistant to penicillin and erythromycin. Appractable resistance to all antibiotics was noted in strains identified as <u>Streptococcus viridans</u> . Resistance varied according to samples and territorial dis- tribution. Experiments were conducted in 11 centers throughout the country simultane- ously; results were compared with those obtained in an identical experimental series in a single hospital environment. Orig. art. has: 2 tables. (5PFS)		
SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001		
Card 171 of 15		

WAWRZYNsKA-PAGOWSKA, Jadwiga; HRZEZINSKA, Blandyna; GRAFF-WROBLEWSKA, Teresa;
PAKULA, Adela; WOJCIK-SCISLOWSKA, Maria; wspolpracowala:
BACZYNSKA, Krystyna

Behavior of C-reactive protein in chronic progressive arthritis.
Reumatologia (Warsz.) 3 no.3:225-229 '65.

1. Z I Oddzialu Reumatologicznego Instytutu Reumatologicznego
w Warszawie (Kierownik: doc. dr. med. J. Wawrzynska-Pagowska)
i z Zakladu Mikrobiologii i Serologii Instytutu Reumatologicznego
(Kierownik: doc. dr. med. Z. Swierczynska).

WAWRZYNSKI, E.

Effect of caffeine on chlorides and vitamin C in blood plasma and in
gastric secretions in normal and pathological conditions. Przegl. lek.,
Krakow 9 no.1:10-16 1953. (CIML 24:4)

l. Of the First Internal Clinic (Head--Prof. J. W. Grott, M.D.) of Lodz
Medical Academy.

WAWRZYNSKI, E.

Excerpta Medica Sec. 6 Internal Medicine Vol. 9/6 June 55

3920. WAWRZYNSKI E. and TETER J. 1. Klin. Chor. Wewnet. A.M., Łódź. * Li-
~~podystopatia~~ progressiva (Polish text) POL. TYG. LEK. 1954,
9/41 (1324-1328) Illus. 6

The first of the 2 patients was a woman of 20. First manifestations of disease ap-
peared just before the first menstruation in the 11th yr. of life. The sex organs
were without functional changes and showed no abnormalities at gynaecological
examination. The second patient was a woman of 24. The disease began 5 months
before clinical observation. There was enlargement of the thyroid, underdevelop-
ment of the sex organs and hyperostosis frontalis interna. The blood pressure was
labile. Gaerthner - Cracow.

PROCHACKI, H.; DZIECIOLOWSKI, Z.; WAWRZYNSKI, E.; MIGDUSZEWSKA, O.

Acute myelocytic leukemia with specific lesions of the skin and the internal organs. Polski Tygod. lek. 10 no.15:476-479 12 Apr 55.

1. Z Kliniki Dermatologicznej A.M. w Lodzi; p.o. kier: dr med H.Prochacki, z I Kliniki Chorob Wewnetrznych A.M. w Lodzi; kier.; prof. dr J.W.Grott i z Zakladu Anatomii Patologicznej A.M. w Lodzi; kier.: prof. dr A. Pruszczynski. Lodz, ul. Obrońców Stalingradu 30.

(LEUKEMIA, MYELOCYTIC, manifestations,
skin, kidneys, liver & spleen)

(SKIN, in various diseases,
leukemia, myelocytic)

(ABDOMEN, in various diseases,
visceral manifest. of myelocytic leukemia)

EXCERPTA MEDICA Sec. 6 Vol. 11/9 Sept. 57
WAWRZYŃSKI E.

5023. WAWRZYŃSKI E., DZIECIOLOWSKI A. and KUŻMICKI R. I Klin. Chor.
Wewn. Akad. Med., Łódź. "Tolerancja ustroju przy leczeniu atebryną chor-
rób pasożytycznych przewodu pokarmowego. Tolerance of the organ-
ism when parasitic diseases of the intestinal tract
are treated with mepacrine WIAD. PARAZYTOL. 1956, 2/6 (257-
365)

Side-effects during mepacrine treatment are discussed on the basis of 300 cases.
Excepting 1 case of psychosis, the side-effects were slight. The preventive admin-
istration of sugar and vit. C before mepacrine, as suggested by Grott, is of great
value. Some transitory side-effects are not wholly due to mepacrine but may also
be caused by some disorder of the intestinal tract or by use of purgatives, e.g.
Mg sulphate.

WAWRZYNISKI, Eugeniusz; MALDYK, Eugeniusz; GOLAB, Boguslaw

Intravital diagnosis of a case of primary cancer of the liver.
Polski tygod. lek. 11 no. 37:1588-1591 10 Sept 56.

1. (Z Oddzialu Wewnetrznego Szpitala im. dr. H. Wolfa w Lodzi;
ordynator: dr. med. E. Wawrzynski i z Zakladu Anatomii Patologicznej
A.M. w Lodzi; kierownik: prof. dr. A. Pruszyznski). Lodz, ul.
Obroncow Stalingradu 30.

(LIVER, neoplasms,
diag., intravital diag. of primary cancer with autopsy
confirmation (Pol))

WAWRZYNSKI, EUGENIUSZ

SLADKI, Edward; GOLDSZTEJN, Jakub; WAWRZINSKI, Eugeniusz.

Case of prolonged ventricular arrest in Morgagni-Adams-Stokes syndrome.
Polskie arch. med. wewn. 27 no.5:685-692 1957.

I. Z I Kliniki Chor. Wewn. A. M. w Łodzi Kierownik: prof dr. med.
J. W. Grott. Adres autorów: I Klinika Chor. Wewn. A. M. w Łodzi, ul
Kopcińskiego 22.

(HEART BLOCK, case reports,

Morgagni-Adams-Stokes with prolonged ECG ventric. arrest
(Pol))

WAWRZYNISKI, Eugeniusz; LEWY, Tadeusz; NIEDZIELSKA-FINKSTEIN, Lucyna;
SZENDZIKOWSKI, Stefan

2 cases cf primary liposarcoma of the abdominal cavity. Pol. tyg. lek.
17 no.42:1641-1643 15 0 '62.

1. Z Oddzialu Chorob Wewnetrznych Szpitala Miejskiego im. dr H. Wolf
w Lodzi; ordynator Oddzialu: dr med. Eugeniusz Wawrzynski; dyrektor
Szpitala: dr Wladyslaw Galczynski i z Zakladu Anatomii Patologicznej
AM w Lodzi; kierownik: prof. dr med. Aleksander Pruszczyński.
(LIPOSARCOMA) (ABDOMINAL NEOPLASMS)

GOLAB, Boguslaw; WAWRZYNSKI, Eugeniusz

Use of growth hormone (somatotropin) in the treatment of
cerebral stroke. Endokr. pol. 14 no.3:233-237 '63.

1. Oddzial Wewnetrzny Szpitala im. L. Pasteura w Lodzi
Dyrektor i ordynator Oddzialu Wewnetrnego: Dr med. E.
Wawrzynski.

(SOMATOTROPIN) (CEREBRAL HEMORRHAGE)

LEWY, Tadeusz; WAWRZYNSKI, Eugeniusz

Blood sugar curves following oral loading with 50 g. of glucose
in chronic pancreatitis. Endokr. Pol. 15 no. 58515-519 8-9 '64

1. Oddzial Wewnętrzny Szpitala imeni L. Pasteura w Łodzi
(Ordynator Oddziału i Dyrektor Szpitala: dr. med. K. Wawrzynski)

WAWRZYNSKI G.

JEZIORO, Zdzislaw; KEDRA, Henryk; WAWRZYNSKI, Grzegorz

Tuberculosis of the abdominal part of the esophagus in cardiospasm
with hemorrhagic inflammation of the esophageal mucous membrane &
coexistent gastric peptic ulcer. Polski tygod. lek. 13 no.4:137-140
27 Jan 58.

1. Z III Kliniki Chirurgicznej Akademii Medycznej we Wrocławiu;
kierownik: doc. dr med. Z. Jeziorko. Adres: Wrocław 9, ul. Chopina 16)

(TUBERCULOSIS, GASTROINTESTINAL, case reports
esophagus, with hemorrh. esophagitis, cardiospasm
& peptic ulcer (Pol))

(CARDIOSPASM, case reports
with hemorrh. esophagitis, esophageal tuberc. & peptic
ulcer (Pol))

(ESOPHAGUS, dis.
hemorrh. esophagitis with esophageal tuberc., peptic ulcer
& cardiospasm (Pol))

(PEPTIC ULCER, case reports
with cardiospasm, hemorrh. esophagitis & esophageal tuberc.
(Pol))

"GASIOROWSKI, L.; PARYSKI, Z.; SZPECHT, A.; WAWRZYSZCZUK, H.

MGG-1 liquid density meter. Nukleonika 8 no.1:86-87 '63.

1. Instytut Badan Jadrowych, Zaklad Jadrowej Elektroniki
Przemyslowej, Warszawa.

GASTOROWSKI, Leslaw; URBANSKI, Stefan; WAWRZYSZCZUK, Henryk

Logarithmic integrators ILG-1 and ILG-2. Nukleonika 7 no.10:
655-657 '62.

1. Instytut Badan Jadrowych, Zaklad Jadrowej Elektroniki
Przemyslowe, Polska Akademia Nauk, Warszawa.

POLAND/Acoustics - Ultrasonics

J-4

Abs Jour : Ref Zhur - Fizika, No 4, 1959, No 6570

Author : Wawrzyszek Wiktor, Bardzicki Norbert, Bozak Ewald

Inst : General Chemical Department, Poland

Title : Chemical Relations Occurring in Ultrasonic Field

Orig Pub : Proc. II conf. ultrasch., 1956, Warszawa, PWN, 1957, 95-98

Abstract : The author lists briefly the chemical actions of ultrasound. Results are given on the sounding (frequency 500 kcs, intensity w/cm^2) of aqueous solutions of KI (concentrations from 0.01 to 1.0 normal): 1. The effectiveness of sounding depends on the shape and material of the vessel. 2. After five minutes of sounding, the quantity of liberated I_2 is within the limits of the errors of analytical determination. 3. The amount of liberated I_2 is not proportional to the concentration of the solution, and the maximum concentration of I_2 is liberated in 8.3-9 percent solutions. 4. For the occurrence of oxidation of AI, it is necessary that oxygen be present. The hydrogen and CO_2 inhibit the sonic oxidation of KI. 5.

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POLAND/Acoustics - Ultrasonics

J-4

Abs Jour : Ref Zhur - Fizika, No 4, 1959, No 6570

The presence of organic compounds with low vapor tension (naphthalene or nitrobenzol) do not stop the oxidation of KI, which is not observed in the presence of lightly-volatile compounds (chloroform, acetone, CS_2). 6. Chemically pure water, saturated with oxygen, and sounded for 15 minutes, retains its ability of liberating I_2 from a solution of KI for 24 hours. 7. Under identical conditions, sounding of solutions of KCl and KBr leads to a liberation of a smaller amount of halide compared with a solution of KI. 8. There exists an optimum height of sounded liquid, at which a maximum chemical action of ultrasound is observed. 9. Sounding of 0.2 N solution of sodium sulfide, to which powdered sulfur is added, leads to production of thiosulfate. 10. Sounding of solutions of ascorbic acid accelerates their loss of activity. Bibliography, 16 titles. -- B.B. Kudryavtsev

Card : 2/2

WAWRZYSZUK, Bronislaw

The microclimate of workshops in some state-owned farms.
Ann. Univ. Lublin sect. D 19:53-62 '64.

1. Instytut Medycyny Pracy i Higieny Wsi imeni W. Chodzki w Lublinie, Zaklad Higieny Wsi (Kierownik: dr. med. Bronislaw Wawrzyszuk).

WAYMOREK, Constantin, ing.

Possibilities of improving mechanical properties of regular gray iron by means of thermal treatment. Metalurgia constr mas 14 no.2:110-119 F '62

1. Institutul politehnic, Brasov.

HUNGARY / Chomical Technology, Processing of Natural Gasos
And Petroloum.

H-23

Abs Jour : Rof. Zhur-Khimiya, No. 12, 1958, 41004

Author : Wayta.

Inst : Not given

Title : Manufacture of bitumens in Hungary.

Orig Pub : Magyar komic, lapja, 1955, 10, No. 2, 39-42.

Abstract : No abstract.

Card 1/1

13

Formation of barrier anodes of aluminum. K. Guimilski and W. Wasiewski (Univ. Wroclaw). Bull. intern. acad. polon. sci., class. math. nat., Ser. A, 1951, 335-40(Pub. 1952)(in English). The process of barrier formation on anodes composed of Al 99.3%, Si 0.30; and Fe 0.37% was studied in $\text{Na}_2\text{HPO}_4/\text{KH}_2\text{PO}_4$ buffer solns. concg. 6.3354 g./l. of PO_4^{2-} ion and with pH values of 5.6, 5.0, 6.4, 6.8, 7.0, 7.4, 7.8, and 8.0. The temp. was $17^\circ \pm 0.5^\circ$. The 5.2 sq. cm. anodes were carefully and identically polished before immersing. A current of 40 ma. was used throughout. Two series of expts. were carried out. In one, the solns. were static, while they were flowing in the other case in order to avoid pH changes during electrolysis. In both series, with increase of pH, voltages rose higher more rapidly. The terminal voltages reached 430 v. in the 2nd series and 180-220 v. in the first series. The process of barrier formation on 2.0 sq. cm. anodes in $\text{Na}_2[\text{Co}(\text{NO}_2)_6]$ and 2.0 sq. cm. anodes in KBr , was observed. Temp. was held const. in both cases, ma., resp. With increasing diln., the terminal voltages were reached more quickly. The potential drops in the KBr solns. were several times greater than those in the cobalt-nitrite solns. in agreement with the results of Günther Schulze (C.A. 15, 2230). The formation of the film in the cobalt-nitrite solns. was characterized by 3 stages: an induction period followed by a period of voltage fluctuations with bubble formation (and of which is reduced in time by diln.), then a steady increase in voltage to its terminal value. If the formation was continued after this point, great voltage fluctuation, presumably caused by the alternate failure and regrowth of the barrier, was observed. Harry Letaw, Jr.

WAZEWSKA-CZYZEWSKA, Maria

"The effects of atomic explosions on men" by Otfried Messerschmidt.
Reviewed by Maria Wazewska-Czyzewska. Nukleonika 6 no.4:309-310
'61.

ALEKSANDROWICZ, Julian; TATAJ, Ludwika; WAZEWSKA-CZZEWSKA, Maria;
MARCHAND, Bernard

Content of Sr90 in bones of cadavers of leukemic patients. Pol.
arch. med. wewn. 32 no.10:1203-1206 '62.

1. Z III Kliniki Chorob Wewnetrznych AM w Krakowie Kierownik: prof.
dr med. J. Aleksandrowicz i z Instytutu Radiologii Uniwersytetu we
Freiburgu Kierownik: prof. dr H. Langendorff.
(LEUKEMIA) (BONE AND BONES) (STRONTIUM ISOTOPES)

BLICHARSKI, Julian; LISIEWICZ, Jerzy; SZCZECIAKOWSKA, Leslawa;
WAZEWSKA-CZYZEWSKA, Maria.

On the problem of postirradiation leukemias. Pol. tyg. lek.
18 no.11:384-387 11 Mr '63.

1. Z III Kliniki Chorob Wewnętrznych AM w Krakowie; kierownik:
prof. dr J. Aleksandrowicz.
(LEUKEMIA, RADIATION-INDUCED)

WAZOWSKA-RIESENKAMPF, Wanda, dr., inz.

The influence of Fe and pH on the process of separating the liquid phase from the solid phase in the zinc hydrometallurgy. Rudy i metale 7 no.2:59-66 '62.

WAZIENSKA-RIESENKAMPF, Wanda, dr inż.

Some problems of intensifying zinc electrolysis. Rudy i metale
9 no. 4:181-187 Ap '64.

WAZOWSKA-RIESENKAMPF, Wanda

Effect of the physico-chemical properties of zinc pulp on the course of separating the liquid and solid phases. Archiw hutn 10 no.1:3-34 '65.

1. Submitted February 7, 1964.

WAZEWSKI, TADEUSZ

	<p><i>Wazewski, Tadeusz.</i> Théorie des multiplicités régulières et éléments fondamentaux d'un ensemble canonique. Application aux transformations canoniques. Ann. Soc. Polon. Math. 18, 15-112 (1945).</p> <p>If the set of functions</p> $(1) \quad x^i = f(u^1, \dots, u^n), \quad y^i = g(u^1, \dots, u^n),$ $i=1, \dots, n,$ $\ D(x^1, \dots, x^n, y^1, \dots, y^n)/D(u^1, \dots, u^n)\ $ <p>is m, and if the y^i satisfy (2) $ds = \sum_{i=1}^n y^i dx^i$, then (1) is called a regular solution of (2). The paper gives a method of constructing the most general regular solution of (2). Previous methods of finding solutions of (2) either did not give the general solution or required the x^i of (1) to be of class C^1. The author applies the results of the first part of the paper to obtain all canonical transformations of class C^1. [See C. Carathéodory, Variationsrechnung, Teubner, Leipzig-Berlin, 1935, pp. 78-101.]</p> <p><i>F. G. Drexel.</i></p> <p>Source: Mathematical Reviews.</p>	<p><i>Vo. 11, No. 4</i></p> <p style="text-align: right;"><i>67</i></p>	

VVAZEWUSKI; Tadeusz

Waz

Wazewski, Tadeusz: On a topological principle of the examination of the asymptotic direction of the integrals of the ordinary difference equations.

Wazewski, Tadeusz. Sur un principe topologique de l'examen de l'allure asymptotique des intégrales des équations différentielles ordinaires. Ann. Soc. Polon. Math. 20 (1947), 279-313 (1948).

Verfasser gibt Verallgemeinerungen und Anwendungen eines schon von ihm ausgesprochenen und bewiesenen Satzes [Atti Accad. Naz. Lincei, Rend. Cl. Sci. Fis. Mat. Nat. (8) 3, 210-215 (1947); diese Rev. 9, 512].

G. Scirra Dragoni (Padova).

Source: Mathematical Reviews.

Vol 10 No. 2

Schiff

Vazevič, Tadeusz. Sur l'évaluation du domaine des racines d'un système des fonctions implicites réelles ou complexes. In: Soc. Polon. Math., 20 (1947), 81-120 (1948).

Sierpiński, W. (éd.). "Sur les fonctions réelles ou complexes". Les fonctions (réelles ou complexes) continues ou partielles $f(x_1, \dots, x_n) = f(x_i, p)$, $i=1, \dots, n$, continuer avec les dérivées partielles $f'_x = \partial f / \partial x_i$, $g'_x = \partial g / \partial x_i$, $g'_p = \partial g / \partial p$, $g'_x p = 1$, dans un ensemble ouvert Ω des variables réelles ou complexes). La forme normante

$$\sum_{i=1}^n dx_i + \sum_{i=1}^n \sum_{p=1}^m dx_i dp.$$

Les x_i sont considérées comme variables, on dit la forme normale des fonctions f relatives aux variables x_i . La forme normale de l'équation caractéristique $(c-a)^{-\alpha} - b = 0$ où a, c, b sont non négatives et les nombres réels, réel et supérieur au point $(a|b)$ sont l'allongement inférieur aux $4i$.

On peut écrire aussi $(a|b)$ si les k' sont donnés dans l'ensemble $\sum_{i=1}^n |x_i|^{k_i} < R$ qui satisfait l'inégalité $\sum_{i=1}^n |x_i|^{k_i} < R^{k_i}$ et telle que $|f(0, \dots, 0)| = 0$ et dans l'ensemble fixe et finis dans la sphère $\sum_{i=1}^n |x_i|^2 = R^2$, où R est le minimum $(c-a)^{-\alpha}$, on peut donner un système unique de fonctions y_1, y_2, \dots, y_m qui remplissent les équations $y_i(0, \dots, 0) = 0$ et les $y'_i(0, \dots, 0) \neq 0$. Ce théorème fournit une évaluation du domaine d'existence des fonctions implicites. L'autre évalue aussi le domaine d'existence de la transformation inverse d'une transformation uniforme sur le domaine dans lequel une transformation uniforme est inversible.

G. Scoro-Dragoni (Padova).

2
28

~~SECRET~~ WAZEWSKI

Szarski, J. et Wazewski, T. Sur le module d'un opérateur complexe réel, associé à l'application à la théorie des formes hermitiennes et à celle des modules des matrices complexes. Ann. Soc. Polon. Math. 20 (1947), 1-6 (1948).

If $M = A + iB$ is a complex matrix

$$M \mapsto M^* = \begin{bmatrix} A & -B \\ B & A \end{bmatrix}$$

is an isomorphism. From the identity

$$\det(M^* - \lambda I) = \det(M - \bar{\lambda}I) \cdot \det(M - \lambda I)$$

it follows that $|\det M^*| = |\det M|$ and that the characteristic roots of M^* are those of M and their conjugates. If M is Hermitian, M^* is symmetric. If both forms being Hermitian with respective characteristic roots $\lambda_1 \leq \dots \leq \lambda_n, \lambda'_1 \leq \dots \leq \lambda'_n$, it is shown that $\lambda_i = \lambda'_i$.

C. C. MacDuffee

Source: Mathematical Reviews

Vol. 17, No. 1

SECRET

WAZEWSKI, T.

Y
D

Wazewski, T., et Szarski, J. Sur l'unicité des intégrals de l'équation de Clairaut, modifiée. Ann. Soc. Polon. Math. 20 (1947), 157-160 (1948).

The authors prove that if $f(x, y)$ is continuous in a rectangle R and has the property that, through every point of R , there passes a line segment which is an integral of the differential equation $y' = f(x, y)$, then these line segments are the only integrals of the differential equation. This result is contained in a general theorem of L. R. van Kampen [Amer. J. Math. 59, 144-152 (1937)]; van Kampen's theorem also answers affirmatively the question raised by the authors concerning the possibility of extending the above uniqueness theorem to systems. P. Hartman

Source: Mathematical Reviews.

Vol 10 No. 2

(m)
JPF

WAZOWSKI, T.

3

Wazowski, T. Sur la limitation des intégrales des systèmes d'équations différentielles linéaires ordinaires. *Studia Math.* 10, 48-59 (1948).

The paper deals with the differential system

$$y_i'(x) = \sum_{j=1}^n a_{ij}(x)y_j(x) + b_i(x), \quad i = 1, \dots, n,$$

on a (finite or infinite) interval (α, β) upon which the coefficients are continuous. If $y_i(x)$ denotes the integral for which $y_i(t) = r_i$, $i = 1, \dots, n$, with $\alpha < t < \beta$, the primary result is the following theorem. If $\iota(x)$ and $\vartheta(x)$ are respectively the smallest and the largest characteristic roots of the Hermitian form $\sum_{i,j} r_i s_j \{ (t_i(x) + t_j(x)) \delta_{ij} \}$, and if the functions $t(x)$, $T(x)$, $I(x)$, $L(x)$ are continuous on (α, β) and such that $I(x) \leq \iota(x)$, $S(x) \leq T(x)$, $I(x) \leq L(x) \leq [\sum_i |b_i(x)|^2]^{1/2}$, then $\Gamma(x) = [\sum_i |y_i(x)|^2]^{1/2} \leq \varphi(x)$, for $a < x \leq t$, $\psi(x) = [\sum_i |y_i(t)|^2]^{1/2} \leq \Phi(x)$, for $t \leq x < \beta$, where $\varphi(x)$ and $\Phi(x)$ are respectively the integrals of the equations $\dot{\varphi} = I(x)\varphi + L(x)$, $\dot{\Phi} = T(x)\Phi + L(x)$, which at t take the value $[\sum_i |r_i|^2]^{1/2}$.

R. E. Langer (Madison, Wis.)

Source: Mathematical Reviews

Vol. 10, No. 1

Wazewski, T.

Wazewski, T. Sur les systèmes de deux équations différentielles linéaires dont les intégrales tendent asymptotiquement vers une ellipse. Soc. Sci. Lett. Varsovie. C. R. Cl. III. Sci. Math. Phys. 41 (1948), 9-12 (1950). (French. Polish summary)

A theorem is stated concerning the asymptotic behavior of solutions of $y'_i = a_{ii}(t)y_1 + a_{ii}(t)y_2 + b_i(t)$, $i = 1, 2$, as $t \rightarrow \infty$. The principal conclusions follow from results of Levinson [Duke Math. J. 15, 111-126 (1948); these Rev. 9, 509] for a system of n homogeneous equations. F. M. Stewart

Source: Mathematical Reviews.

Vol. 13 No. 2

WAZEWSKI

Wazewski, T. Sur certains lemmes relatifs au prolongement des intégrales des équations différentielles ordinaires. Bull. Int. Acad. Polon. Sci. Cl. Sci. Math. Nat. Sér. A. Sci. Math. 1949, 73-74 (1949).

This paper gives three lemmas which imply the following theorem. If (i) through each point (x_0, y_0) of an open set Ω there passes a solution of the differential equation $y' = f(x, y)$; (ii) $f(\cdot, y)$ is continuous in Ω ; (iii) $y(x_0)$ is defined in a neighborhood of x_0 ; (iv) $y(x)$ belongs to a normed vector Banach space, then $y(x)$ can be prolonged to the boundary of Ω .

M. Thomas (Durham, N. C.)

Source: Mathematical Reviews, 1950

Vol. 11 No. 8

Wazewski, T.

Wazewski, T. Quelques démonstrations uniformes pour tous les cas du théorème de l'Hôpital. Généralisations.
Prace Mat. Fiz. 47, 11

The main purpose of L'Hospital's rule which without the need of separate consideration of various cases. This purpose is accomplished with the aid of the following lemma. Let (a_n) , (b_n) be sequences of real numbers such that $b_n \neq 0$ and either (1) $\lim a_n = 0$ or (2) $\lim b_n = \infty$. Then there exist two increasing sequences of indices $y_1, y_2, \dots, \delta_1, \delta_2, \dots$ such that $b_{y_i} \neq b_{\delta_i}$ and

$$\lim a_{y_i}/b_{y_i} = 0$$

The proof of the lemma envisages two cases. Thus, in fact, two cases of L'Hospital's rule are considered, according as in the quotient $f(x)/g(x)$ we have $\lim f(x) = \lim g(x) = 0$ or $\lim |g(x)| = \infty$. No classification based on the limit approached by x or on the behavior of $f'(x)$ at $x = 0$ is needed. Variations of the first proof are contained in the paper also. A generalized form of L'Hospital's rule is applicable to absolutely continuous functions.

Source: Mathematical Reviews, 1950

Vol. 11 No. 8

Wazewski, T.

Wazewski, T. Sur la coïncidence asymptotique des intégrales de deux systèmes d'équations différentielles. Bull. Int. Acad. Polon. Sci. Cl. Sci. Math. Nat. Ser. A. Sci. Math. 1949, 13, 150 (1950).

If $\Gamma(x)$ and $Z(x)$ in the differential equations

$$\frac{dY}{dx} = f(x, Y), \quad \frac{dZ}{dx} = G(x, Z)$$

are vectors of n components and the equations are such that the interval $a < x < b$ contains two such solutions $\Gamma(x)$ and $Z(x)$ which are continuously extendable to $x = b$ if however, i.e. $|\Gamma(x) - Z(x)| \sim 0$, account under regular transformations of functions of asymptotic equivalence. The paper gives two definitions of asymptotic equivalence which are invariant. Let $L_\rho(\Gamma, r)$ denote the zone that is filled by the integral $\Gamma(x)$ which lies in the neighborhood of radius r of a point (x_*, Y_*) . Two integrals $\Gamma(x)$, $Z(x)$ are designated to be asymptotically equivalent if for every $r > 0$, $\Gamma(x)$ is in $L_\rho(Z, r)$ for all sufficiently large x . $L_\rho(Z, r)$ and $Z(x)$ is of a similar character but is not equivalent to the

R. E. Langer (Madison, Wis.)

Sources: Mathematical Reviewer

Vol. 12, No. 3

Waszewski, T.

Waszewski, T. Sur l'asymptotique des intégrales d'une équation différentielle non linéaire. Bull. Int. Acad. Polon. Sci. Cl. Acad. Polon. Sci. Cl. 1949, 62-66 (1949).

In the differential equation $\frac{dy}{dx} = f(x, y)$, let $f(x, y)$ be a continuous function on the open rectangle $R: 0 < x \leq a$, $|y| \leq b$ and let $y = y(x)$ be a solution for $0 < x \leq a'$ ($\leq a$). It is shown that $y(+0)$ exists and is 0 when the following holds.
(i) if $0 < |y_0| \leq b$, then $y(x, y_0) = 0$ for (x, y) in R and sufficiently near $(0, y_0)$ and
(ii) no solution $x = x(y)$ in R of $\frac{dx}{dy} = 1/f(x, y)$ is such that either $x(0) = 0$ or $x(y_0 + 0)$ depends on geometrical arguments similar to those used by Hartman and Wintner [Amer. J. Math. 62, 301-308 (1940); these Rev. 7, 444]. The above result allows a generalization of the main theorem of Hartman and Wintner. [In theorem 3, the misprint "xf(x, y)" for "yf(x, y)" occurs several times.]

P. Hartman

Source: Mathematical Reviews, 1950

Vol. 11 No. 8

WAZEWSKI, T.

WAZEWSKI, T.: A Generalization of the Theorems on the Finite Increases Applied to the Case of the Abstract Space

Wazewski, T. Une généralisation des théorèmes sur les accroissements finis au cas des espaces abstraits. Application. Bull. Int. Acad. Polon. Sci. Cl. Sci. Math. Nat. Ser. A. Sci. Math. 1949, 18, 185 (1950).

The author considers quotients

$$I(t_1, t_2) = [f(t_2) - f(t_1)] / (f(t_2) - f(t_1)).$$

Here t_i denote values of the real function while the values of $f(t)$ necessarily complete space E . It is stated: let Δ be an open interval converging to $t_0 \in \Delta$, and the distances of the points $I(a, t)$ from zero, one has $I(a, t) \subset V$ for every couple a, t of distinct points of Δ . A number of applications of this theorem which is considered to be a generalization of the differential calculus are given.

Z. II. Rol.

Source: Mathematical Reviews.

Vol. 12 No. 7

WAZEWSKI, TADEUZ

Wazewski, Tadeuz,
"Théorie générale
Math., 22 (1949), 161.

Let real functions f and g be defined on a finite or infinite open interval with a finite or infinite extremity k . Let λ and μ denote the interior limits of $f(x)/g(x)$ and $f'(x)/g'(x)$, respectively, as $x \rightarrow k$; let L and A denote the corresponding superior limits. The generalization of L'Hospital's theorem states that, under suitable conditions, $\lambda \leq \mu \leq L \leq A$. The author proves this theorem with the aid of arguments very similar to those used by him in [Prace Mat.-Fiz. e Rev. 11, 585].

47, 117-128 (1949); the

Une démonstration uniforme du
de L'Hospital. Ann. Soc. Polon.

168 (1950).

Let real functions f and g be defined on a finite or infinite open interval with a finite or infinite extremity k . Let λ and μ denote the interior limits of $f(x)/g(x)$ and $f'(x)/g'(x)$, respectively, as $x \rightarrow k$; let L and A denote the corresponding superior limits. The generalization of L'Hospital's theorem states that, under suitable conditions, $\lambda \leq \mu \leq L \leq A$. The author proves this theorem with the aid of arguments very similar to those used by him in [Prace Mat.-Fiz. e Rev. 11, 585].

E. Taylor (Los Angeles, Calif.).

Source: Mathematical Reviews.

Vol. 11 No. 10

2000

WAZEWSKI, T.

Wazewski, T. Certaines propriétés de caractère "épidémique" relatives aux Soc. Polon. Math. 24 (1952).

Let $f(x, y)$ be a continuous function, and let $r(x)$ be the maximal integral of $y' = f(x, y)$, i.e., $r(a) = a$. An upper epidermis of r consists of all points (x, y) such that $a \leq x < b$ and $r(x) \leq y \leq r(x) + \epsilon(x)$, where $\epsilon(x)$ is a function positive and continuous for $a \leq x < b$. (The paper has $a < x < b$, but this obviously is not sufficient to

upper epidermis of r , and

for $a \leq x < b$, $\varphi(a) \leq r(a)$, and

$\varphi'(x) \leq f(x, \varphi(x))$ when $x \in (x, \varphi(x))$; then

$\varphi(x) \leq r(x)$ for $a \leq x < b$. This variant

of a well-known result is most convenient in some applica-

tions because it is obvious

be differentiable at any point

where its graph lay in an

epidermis.

propositions de caractère "épi-
négalités différentes. Ann.

1), no. 1, 1-12 (1952).

is function, and let $r(x)$ be the
 $y, y(a) = a$. An upper epidermis
 (x, y) such that $a \leq x < b$ and
 $r(x) \leq y \leq r(x) + \epsilon(x)$, where
 $\epsilon(x)$ is a function positive and
continuous for $a \leq x < b$. (The
paper has $a < x < b$, but this
obviously is not sufficient to
the results.) Let E be such an
upper epidermis of r , and
assume that $\varphi(x)$ is continuous
for $a \leq x < b$, $\varphi(a) \leq r(a)$, and
 $\varphi'(x) \leq f(x, \varphi(x))$ when $x \in$
 $(x, \varphi(x))$; then

$\varphi(x) \leq r(x)$ for $a \leq x < b$. This variant

of a well-known result is most convenient in some applica-

tions because it is obvious

be differentiable at any point

where its graph lay in an

epidermis.

F. M.

Inequality

Wazewski, Tadeus. Systèmes des équations et des inégalités différentielles ordinaires aux dérivées maximalement et leurs applications. Ann. Soc. Polon. Math. 23, 112-16 (1950).

A set of functions $f_1(x), f_2(x), \dots, f_n(x)$, $i = 1, \dots, n$, has property $H(a, b)$ if it implies $f_i(t, a, \dots, a) \leq f_i(t, b, \dots, b)$. It has property K if each f_i is a nondecreasing function of each y_j with $y_j > 0$; Kamke [Acta Math. 58, 5-85 (1932), theorem 7] has shown that if f have property K in an open set Ω then the system of differential equations (A) $dy_i/dt = f_i(t, y_1, \dots, y_n)$ has, through each (t_0, a_1, \dots, a_n) , an integral which is maximal on some interval $t_0 \leq t \leq T$. A counterexample is given for Kamke's statement that β can be chosen so that the maximal integral approaches the boundary of Ω as t approaches β .

Among the positive results are the following: (1) If property K is replaced by property H then Kamke's result is correct. In case (2) If (i) the f_i have property F in Ω , (ii) $r'(t) - r(t) < 0$ is a maximal integral of (A) on the interval $t_0 \leq t \leq a$, (iii) the lower right derivative $D_r y_i(t) \leq f_i(t, y_1(t), \dots, y_n(t))$ for $t_0 \leq t \leq a$, (iv) $y_i(t) \leq f_i(t, y_1(t), \dots, y_n(t))$ and $(r'(t) - r(t))y_i(t) < 0$ for $t_0 \leq t \leq a$, and (v) $y_i(t) \leq f_i(t, y_1(t), \dots, y_n(t))$ for $t_0 \leq t \leq a$ and $y_i(t) \leq f_i(t, y_1(t), \dots, y_n(t))$ for $t \geq a$, (3) The conclusion, the f_i have

property H in Ω follows from the hypothesis whenever (a, b) is a point and a solution $y_1(t), \dots, y_n(t)$ of (A) are given so that $y_i(t) \leq b$, then there is an $\epsilon > 0$ and a solution $(\bar{y}_1(t), \dots, \bar{y}_n(t))$ of (A) such that $\bar{y}_i(t) = y_i(t)$ and $\bar{y}_i(t) \leq r(t)$ for $t_0 \leq t \leq t_0 + \epsilon$. (4) If the hypothesis of (3) holds with $t_0 \leq t \leq a + \epsilon$ replaced by $t_0 \leq t \leq a + \tau$, then f_i depends on t and y_i alone.

Among the applications is a method for estimating the error in using solutions of one system of differential equations as approximations to those of another.

F. M. Stewart (Providence, R. I.)

Wasiewski, Tadeusz, "Sur l'évaluation du domaine d'existance des fonctions lipschitziennes dans le cas des espaces abstraits," Fund. Math. 37, 5-24 (1950).

This paper gives a maximum domain of existence for a continuous function defined implicitly by an equation $f(x, y) = 0$, between variables in abstract metric spaces X and Y , in terms of what may be called "upper and lower expansion ratios" of f with respect to x and to y . The "upper expansion ratio" of f with respect to x is denoted and defined by

$$\text{all } f(x, y) = \limsup_{\{x, y\}} \rho(f(x, y), f(x, \bar{y})) / \rho(\bar{x}, \bar{y})$$

$$\text{and the "lower expansion ratio" of } f \text{ with respect to } y \text{ by}$$

$$\text{all } f(x, y) = \liminf_{\{x, y\}} \rho(f(x, y), f(x, \bar{y})) / \rho(\bar{y}, y)$$

where ρ denotes the distance function. When X is a normed linear space, and Y is a complete, and $f(x, y)$ is continuous for $\rho(x, y) < r$, $\rho(x, b) < R$, and satisfies all $f(x, y) = a$ for all $f(x, y) \geq a > 0$, and when $f(x, y) = f(c, b)$ has a unique continuous solution for y near each of its solutions, then $f(x, 2) - f(x, b)$ has a unique continuous solution $y = \phi(x)$.

Lipschitz condition with constant a/b . When the spaces and the function f satisfy additional conditions (including differentiability) the final result can be deduced from theorem 5 of Hildebrandt and Graves [Trans. Amer. Math. Soc. 29, 127-153 (1927), p. 152]. The author's concepts enable him to make the proof without these restrictions. This paper includes a preliminary theorem in which a set of points in the Cartesian product $X \times Y$ replaces the function f , and corollaries on inversion of transformations.

L. M. Graves (Chicago, Ill.).

Source: Mathematical Reviews,

Vol. 12 No. 127

WAZEWSKI, T.

Mathematical Reviews
Vol. 15 No. 3
March 1954
Analysis

Ważewski, T. Sur l'évaluation du nombre des paramètres essentiels dont dépend la famille des intégrales d'un système d'équations différentielles ayant une propriété asymptotique. Bull. Acad. Polon. Sci. Cl. III. 1, 3-5 (1953).

Sia $X' = f(t, X, Y)$, $Y' = g(t, X, Y)$ un sistema di equazioni differenziali ordinarie scritto in forma vettoriale, con X e Y vettori a p e q dimensioni rispettivamente, i secondi membri del sistema essendo continui in un insieme aperto W contenuto fra gli iperpiani $t=a$ e $t=b$, ($a < b$); e per ogni punto di W passi una sola soluzione del sistema. Siano $L(t)$ ed $M(t)$ funzioni vettoriali, continue insieme con le loro derivate, al pari delle funzioni scalari e positive $l(t)$ ed $m(t)$, nell'intervallo aperto di estremi a e b ; e l'insieme T definito dalle limitazioni $|X - L(t)| \leq l(t)$, $|Y - M(t)| \leq m(t)$, $a < t < b$, appartenga a W . Si supponga poi che sia

$$|X - L(t)| |f(t, X, Y) - l'(t)| < l(t)l'(t)$$

se $|X - L(t)| = l(t)$, $|Y - M(t)| \leq m(t)$, $a < t < b$ e che sia

$$|Y - M(t)| |g(t, X, Y) - m'(t)| > m(t)m'(t)$$

se $|X - L(t)| \leq l(t)$, $|Y - M(t)| = m(t)$, $a < t < b$. Allora l'insieme Z dei punti P , contenuti nella sezione di T coll'iperpiano $t=t_0$, siffatti che la soluzione del sistema $X' = f$, $Y' = g$ passante per P appartenga a T almeno finché t è maggiore di t_0 , ha una dimensione non inferiore a p . L'A. dà un cenno della dimostrazione. G. Scorzat Dragoni.

WAZEWSKI, T.

BENJAMIN, V., et WAZEWSKI, T. Sur une méthode de comparaison des équations hyperboliques aux dérivées partielles du second ordre avec les équations différentielles ordinaires. Bull. Acad. Polon. Sci. Cl. III. I, 6-10 (1953).

Let $H(u) = \sum_{i,j=1}^m a_{ij}(x_1, \dots, x_m) \partial^2 u / \partial x_i \partial x_j$ be a totally hyperbolic operator with x_m the distinguished direction, and consider the differential inequality

$$|H(u)| \leq \sum_{j=1}^m |b_j(x_1, \dots, x_m)| \left| \frac{\partial u}{\partial x_j} \right| + |c(x_1, \dots, x_m)| \cdot |u| + |f(x_1, \dots, x_m)|.$$

For functions u satisfying such an inequality the authors state an estimate for the integral

$$\int \left(\sum_{i=1}^m (\partial u / \partial x_i)^2 + u^2 \right) dx_1 \cdots dx_{m-1}$$

where the range of integration is in a portion of the hyperplane $x_m = \text{const}$. With the aid of this estimate a uniqueness theorem and the continuous dependence on initial values are stated for solutions of the hyperbolic equation $H(u) = f(x_1, \dots, x_m, u, \partial u / \partial x_1, \dots, \partial u / \partial x_m)$. The estimate for the above integral generalizes similar inequalities obtained previously by Friedrichs and Lewy [Math. Ann. 98, 192-204 (1927)] and Sobolev [The equations of mathematical physics, 2nd ed., Gostehizdat, Moscow-Leningrad, 1950, p. 303; these Rev. 18, 42]. M. H. PROLLER.

Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
Analysis

WAZEWSKI, T.

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Wazewski, T. Sur une relation entre la façon de la mise en équation du problème physique et la notion des solutions généralisées des équations aux dérivées partielles du second ordre. Bull. Acad. Polon. Sci. Cl. III. 1, 79-82 (1953).

The initial-value problem for the vibrating string usually demands a solution of the wave equation having continuous second derivatives. The problem is formulated here so as to demand a solution with continuous first derivatives of a certain integro-differential equation, and the solutions are identified with Sobolev's "generalized solutions" of the wave equation. The physical significance of these results is discussed very briefly. *F. A. Ficken* (Knoxville, Tenn.).

Mathematical Reviews
Vol. 15 No. 4
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Analysis

Wazewski, T.

Ważewski, T.
liste du progrès

Une modification du théorème de l'Hôpital
et du prolongement des intégrales des
équations différentielles. Ann. Polon. Math. 1, 1-12
(1954).

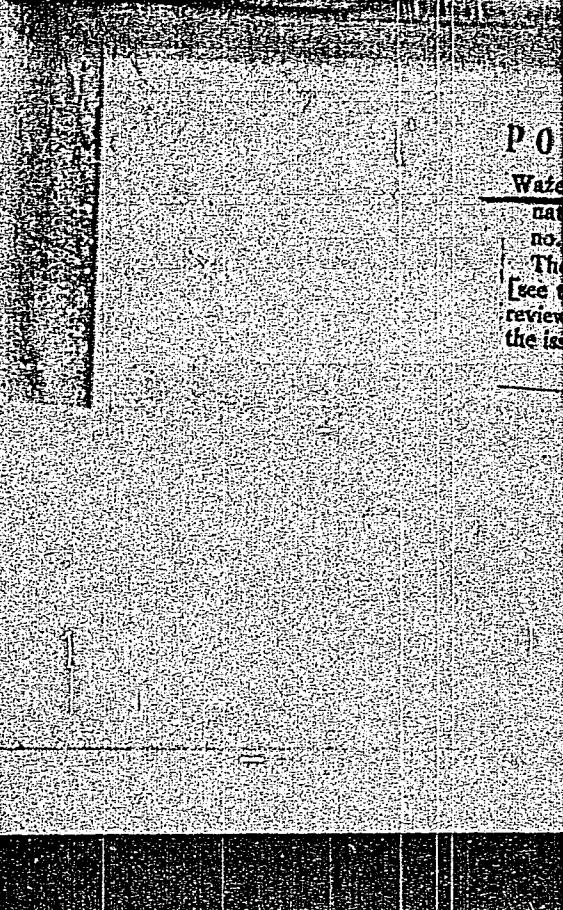
The modified theorem is as follows: Let Δ be an open real interval of the real axis, with $x=b$ at one end (b may be $\pm\infty$). Let g be a real function which is strictly monotonic on Δ ; let F be a Banach-space-valued function defined on Δ , and $F'_+(x)$ exist and $g'_+(x) \neq 0$ in $\Delta - Z$, where Z is an at most denumerable set. Suppose $g(x) \rightarrow 0$ when $x \rightarrow b$, that $\lim_{x \rightarrow b} |F(x)| = 0$, and that $\lim_{x \rightarrow b} F'_+(x)/g'_+(x)$ exists, $= k$, for each sequence $\{x_n\}$ in $\Delta - Z$ for which $x_n \rightarrow b$ and $F(x_n) \rightarrow 0$. Then, as $x \rightarrow b$, we have $F(x) \rightarrow 0$, $F(x)/g(x) \rightarrow k$, and if x is restricted to $\Delta - Z$, $F'_+(x)/g'_+(x) \rightarrow k$. This theorem is used to prove that, under certain conditions, a solution v of the equation $v'(x) = G(x, v(x))$ (v and G in the open interval (a, b)) can be extended also at $x=b$. A. E. Taylor (Geneva).

Functional

function space

Calculus

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vski, T. Sur l'algorithmeation des méthodes d'itérations successives. Ann. Soc. Polon. Math. 24 (1951),

2, 157-164 (1954).

The author carefully replies to Banachiewicz's article [see the preceding review], which he calls a polemic. The reviewer finds Wazewski the more objective of the two, but the issues are of too little importance to report here.

G. E. Forsythe (Los Angeles, Calif.).

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WAZWISKI, T.

Integrals of a branch of systems of the ordinary differential equations.
In French. p.338
ANNALES POLONICI MATHEMATICI (Polska Akademia Nauk) Warszawa
Vol. 1, no. 2, 1955

So. East European Accessions List Vol. 5, No. 9 September 1956

Wazewski, T.

Watewski, T. Sur la structure de l'ensemble engendré par les intégrales non asymptotiques des équations différentielles. Bull. Acad. Polon. Sci. Cl. III. 3, 143-148 (1955). The present paper starts the theory of the author concerning the solutions of a differential system $(*)$, $du/dt = F(t, u)$, $u = (u_1, \dots, u_n)$, of n different equations [see T. Wazewski, Ann. Soc. Polon. Math. 20, 279-313 (1943), MR 10, 122; F. Albrecht, Bull. Acad. Polon. Sci. Cl. III. 1, 1-10 (1954); MR 16, 248; A. Płoszajczak, ibid. 16, 700; K. Tatarkiewicz-Skłodowska, Sect. A. 7, 19-31 (1954); MR 16, 621]. Actions let ω be open sets of the boundary of ω in U , S , B , G (res" (ends), "strict-ingress", "external contact" for the trajectories of $(*)$ in ω . Suppose that F is continuous in U , that in U , that $B = S + E + G$, $S \neq \emptyset$, $G \neq \emptyset$, G closed, and that each trajectory entering ω at some point $P \in \omega + B$ is a point of a point of E . If Z is the set of all points entering ω at E and remaining

$L = E/\pi$

integrals), let $\Gamma = \omega = Z$. Suppose $i = 1, 2$, are any two systems as $S_i, E_i, G_i, Z_i, \Gamma_i$ are the corresponding sets. Then the following theorem holds: If there exists a homeomorphism h

between $S_1 + G_1$ and $S_2 + G_2$, then there is also a homeomorphism m between Γ_1 and Γ_2 with $S_1 = m(S_2)$, $G_1 = m(G_2)$, $E_1 = m(E_2)$, $\omega_1 \Gamma_1 = m(\omega_2 \Gamma_2)$, $\Gamma_1 = m(\Gamma_2)$. The present theorem and others supplant previous ones where the concept of retraction was used.

Applications are announced concerning the dimension of the set Z .

c. that $d\omega_i/dt_i = F_i(t_i, \omega_i)$, above and that w_i, Ω_i, B_i ,

exists a homeomorphism h

with $S_1 = h(S_2)$, $G_1 = h(G_2)$, $E_1 = m(E_2)$, $\omega_1 \Gamma_1 = m(\omega_2 \Gamma_2)$, $\Gamma_1 = m(\Gamma_2)$. The present theorem and others supplant previous ones where the concept of retraction was used.

Concerning the dimension of Cesari (Lafayette, Ind.).

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LHM

WAZEWSKI, T.

Ważewski, T. Sur les intégrales de branchement des systèmes des équations différentielles ordinaires. Ann. Polon. Math. 1 (1955), 338-345.

Differential systems are considered: (1) $dx/dt = F(t, X)$, $X = (x_1, \dots, x_n)$, where F is a continuous real vector function of t and X in a $(n+1)$ -dimensional open set W of the real (t, X) -space, and a uniqueness theorem holds. For every integral $J = J(P)$, $X = \phi(t)$, $\alpha < t < \beta$, passing through a point $P \in W$ the maximal interval of existence $M(P) = [r(P) < t < s(P)]$ is considered, where $r(P)$ may be $-\infty$ and $s(P)$ may be $+\infty$. The function $r(P)[s(P)]$ is upper [lower] semicontinuous. A sequence $[J_k]$ of integrals of (1) is said to be condensed on a point $Q \in W$ if for each k there is a point $P_k \in J_k$ with $P_k \rightarrow Q$ as $k \rightarrow +\infty$. The same sequence $[J_k]$ is said to be condensed on an integral J if it is condensed on each point $Q \in J$. Two distinct integrals J' , J'' are said to be associated if there is a sequence $[J_k]$ which is condensed on both J' , J'' . An integral J is said to be a branch integral if there is at least another distinct integral J' associated to J . It is easily proved that any two associated integrals have disjoint maximal intervals of existence. In the present paper the author proves that the set KCW of all points $P \in W$ which are on some branch integrals of (1) is of first category of Baire. The same concept of branch-integral was considered by the author in a paper concerning first-order partial differ-

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Wazewski

<p><u>Watcowski, T.</u> Sur certaines inégalités aux dérivées partielles relatives aux fonctions possédant la différentielle approximative. Ann. Polon. Math. 2 (1955), 219-233 (1956).</p> <p>A function $f(x, y)$ is said to have an ϵ-approximate partial derivative α with respect to x at (x_0, y_0) if</p> $\limsup_{x \rightarrow x_0} f(x, y) - (x_0, y) - \alpha(x - x_0) / x - x_0 \leq \epsilon$ <p>as $x \rightarrow x_0$. Similarly gradients are defined. One of the main theorems gives the "integration" of a system of ϵ-approximate differential inequalities (involving the maximal solution of a corresponding system of ordinary differential equations). This theorem is used to prove, for a system of partial differential equations $\frac{\partial z_k}{\partial x} = G_k(x_1, \dots, x_n, y_1, \dots, y_m, z_1, \dots, z_n; \frac{\partial z_s}{\partial y_1}, \dots, \frac{\partial z_s}{\partial y_m})$, where G_k does not depend on $\frac{\partial z_s}{\partial y_r}$ for $s \neq k$, an approximation theorem concerning the limits of ϵ-approximate solutions as $\epsilon \rightarrow 0$. The last section concerns a method for obtaining ϵ-approximate solutions of an equation $P = f(x, y, z, q)$.</p> <p><i>Hartman</i></p> <p><i>Wazewski, T.: On some inequalities with partial derivatives of functions having a partial differential.</i></p>	<p>1 2 0 0 8</p>		
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